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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/815,886	03/22/2001	Victor Krasnov	FRNT.4.US	7371

7590 04/23/2003

JANAH & ASSOCIATES, INC
650 Delancey Street, Suite 106
San Francisco, CA 94107

EXAMINER

MERCADO, JULIAN A

ART UNIT	PAPER NUMBER
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1745

DATE MAILED: 04/23/2003

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Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/815,886

Applicant(s)

KRASNOV ET AL.

Examiner

Julian A. Mercado

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-19 is/are pending in the application.
- 4a) Of the above claim(s) 10-19 is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-9 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on ____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☒ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). ____
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 2, 4-6. 6) ☐ Other: _____

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DETAILED ACTION

Election/Restrictions

Restriction to one of the following inventions is required under 35 U.S.C. 121:

- I. Claims 1-9, drawn to a product, classified in class 429, subclass 162.
- II. Claims 10-19, drawn to the process of making, classified in class 29, subclass 623.1+.

The inventions are distinct, each from the other because of the following reasons:

Inventions I and II are related as process of making and product made. The inventions are distinct if either or both of the following can be shown: (1) that the process as claimed can be used to make other and materially different product or (2) that the product as claimed can be made by another and materially different process (MPEP § 806.05(f)). In the instant case the product can be made by another materially different process such as lamination.

Because these inventions are distinct for the reasons given above and have acquired a separate status in the art as shown by their different classification, restriction for examination purposes as indicated is proper.

During a telephone conversation with Ashok Janah on April 18, 2003 a provisional election was made with traverse to prosecute the invention of Group I, claims 1-9. Affirmation of this election must be made by applicant in replying to this Office action. Claims 10-19 are withdrawn from further consideration by the examiner, 37 CFR 1.142(b), as being drawn to a non-elected invention.

Applicant is reminded that upon the cancellation of claims to a non-elected invention, the inventorship must be amended in compliance with 37 CFR 1.48(b) if one or more of the currently named inventors is no longer an inventor of at least one claim remaining in the application. Any amendment of inventorship must be accompanied by a request under 37 CFR 1.48(b) and by the fee required under 37 CFR 1.17(i).

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1-4 and 9 are rejected under 35 U.S.C. 102(b) as being anticipated by Cheu et al. (U.S. Pat. 5,670,272).

Cheu teaches a battery comprising a substrate [70], a cathode [50] thereon, a cathode current collector [60] notably present in singular (thereby meeting the claimed “one or more conducting lines”) between an electrolyte [40] and the cathode, and an anode [20] having an anode current collector [30] in contact therewith. (see Figure 1 and Figure 2, col. 3 line 49-67). The cathode current collector is absent a non-reactive metal containing material as it is comprised of nickel or copper. (col. 3 line 65) As seen in Figures 1 and 2, the electrolyte [40] in Cheu is considered to extend through the conducting line [60] insofar as the electrolyte completely surrounds the conducting line of the current collector and so as to contact the cathode on the opposite side (as required by the present claims). It appears to the examiner that

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applicant, whether claiming the conducting line in singular or plural form, actually intends to claim the electrolyte to extend *around* the conducting line or lines, or, extend *through the spacings* defined by a plurality of conducting lines. [emphasis added] The latter feature, however, is noted to require a positive recitation of a plurality of conducting lines for a spacing for the electrolyte to go through to be formed therebetween.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 5 and 6 are rejected under 35 U.S.C. 103(a) as being unpatentable over Cheu et al. as applied to claims 1-4 and 9 above, in view of Goebel et al. (U.S. Pat. 4,565,753)

The teachings of Cheu are discussed above.

Cheu does not explicitly teach the conducting lines to comprise elongated prongs extending from a base prong (claim 5) and contacting less than 80% of the cathode surface area. (claim 6) However, Goebel teaches an elongated rectangular strip having elongated prongs such as found in its mesh structure and with a disclosed open texture or contact area of approximately 50%. (col. 3 line 32-44) Thus, at the time the invention was made, it would have been obvious to one of ordinary skill in the art to modify Cheu's invention by employing elongated prongs and contacting less than 80% of the cathode surface area. The motivation for such a modification would be to uniformize current conductive paths across the cathode surface.

Claim 7 is rejected under 35 U.S.C. 103(a) as being unpatentable over Cheu et al. as applied to claims 1-4 and 9 above, in view of Baker. (U.S. Pat. 3,844,841)

The teachings of Cheu are discussed above.

Cheu does not explicitly teach the substrate to comprise mica. However, Baker teaches a substrate [48] to comprise mica along its outer faces. (Figure 7, col. 3 line 62-66) Thus, the skilled artisan would have found obvious to modify Cheu's invention by having the substrate comprise mica along its exposed surfaces. The motivation for such a modification would be to electrically and thermally insulate the substrate from the outer battery housing.

Claim 8 is rejected under 35 U.S.C. 103(a) as being unpatentable over Cheu et al. as applied to claims 1-4 and 9 above, in view of Bates (U.S. Pat. 5,612,152)

The teachings of Cheu are discussed above.

Cheu does not explicitly teach the cathode to comprise lithium cobalt oxide. However, Bates teaches lithium cobalt oxide LiCoO_2 for the cathode material. (col. 5 line 7-29) Absent of unexpected results, it would not require undue experimentation for the skilled artisan to employ lithium cobalt oxide for Cheu's cathode material as lithium cobalt oxide is an art-recognized equivalent for Cheu's disclosed vanadium oxide V_2O_5 .

Conclusion

FR 2 403 652 cited in the November 5, 2002 Information Disclosure Statement has not been considered by the examiner (as indicated by the line-through), as citation of this document without its accompanying translation, English-language abstract or statement of relevance is not

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in compliance with MPEP 609. Applicant is requested to provide these related documents for the examiner's consideration in order for the FR '652 document to be given its full consideration.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Julian A. Mercado whose telephone number is (703) 305-0511.

The examiner can normally be reached on Monday through Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Patrick J. Ryan, can be reached on (703) 308-2383. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 872-9310 for regular communications and (703) 872-9311 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0661.


April 19, 2003


Patrick Ryan
Supervisory Patent Examiner
Technology Center 1700